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Relationship Between Air Quality Planning and the State and Areawide Water Quality Management Program: Eligible Uses of Section 208 Funds for Air Quality Analyses (Memo)

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RELATIONSHIP BETWEEN AIR QUALITY PLANNING AND THE STATE AND AREAWIDE WATER QUALITY MANAGEMENT PROGRAM; ELIGIBLE USES OF SECTION 208 FUNDS FOR AIR QUALITY ANALYSES

(Memo)

U.S. ENVIRONMENTAL PROTECTION AGENCY

Office of Air Quality Planning and Standards

Research Triangle Park, North Carolina

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AIR AND WASTE MANAGEMENT

SUBJECT: Relationship Between Air Quality Planning and the State and Areawide Water Quality Management Program; Eligible Uses of Section 208 Funds for Air Quality Analyses

FROM: Andrew W. Breidenbach, Assistant Administrator for Water and Hazardous Materials

Roger Strelow, Assistant Administrator for Air and Waste Management

TO: All Regional Administrators

ATTN: Regional Water Division Directors
Air and Hazardous Materials Division Directors
Environmental Programs Division Director, Region II

REVISED PROGRAM GUIDANCE MEMORANDUM: SAM-8

Purpose

The purposes of this memorandum are: (1) to transmit revised guidance on Environmental Protection Agency policy on the relationship between air quality planning and the state and areawide water quality management (WQM) program, and (2) to identify air quality-related activities eligible for funding under section 208. This memorandum and the attached guidance document, "Procedures for Coordination between Air Quality Planning and the State and Areawide Water Quality Management Program", revise and expand upon previous guidance signed by John Quarles on September 22, 1975 (issued as water quality management guidance SAM-8).

Background

The September 1975 guidance dealt with the coordination of the air quality maintenance program and the WQM program. Since that time, the regulations governing both programs have been changed. The attached guidance has been revised to reflect those changes.

In addition, past guidance has not addressed explicitly an issue of interest to regional, state, and areawide personnel: the eligible uses of section 208 funds for air quality analyses. There are various legal justifications for addressing air quality in WQM programs in both

designated and nondesignated areas. The most important justification is found in section 208(b)(2)(E) which requires an assessment of the environmental, social and economic impact of carrying out the plan. In addition, the regulations governing the water quality management planning process require that WQM plans are coordinated with and describe the relationship with plans developed under the Clean Air Act (section 130.34(a)). WQM plans must also "be in conformance with all State and local legislation, regulations, or other requirements or plans regarding land use and the environment, except for those cases where the plan specifically recommends changing such legislation, regulations, or other appropriate requirements" (section 131.20(f)(1)(iii)).

As a result of these and other requirements, the effects of the WQM plan on air quality must be addressed in the plan. This is especially important in areas already experiencing serious problems in attaining air quality standards. The implementation of WQM plans must not cause a violation or delay the attainment of air quality standards which are part of the State Implementation Plans (SIPs).

Federal law (31 USC 628) requires that funds appropriated for a program must be spent for the purposes of that program. Thus, any air quality activities supported by 208 funding must be directly related to the purposes of the WQM program. The following guidelines should be used in determining eligible air quality costs:

1. The activities listed below are examples of eligible uses of section 208 funds. The list is intended for illustrative purposes only and is not all inclusive. Other activities related to air quality aspects of WQM programs may also qualify.

   a. Development of common data bases.
   b. Development and implementation of common public participation programs.
   c. Development and implementation of common plan adoption and revision procedures (e.g., joint public hearings).
   d. Development of common institutional mechanisms for plan adoption, implementation and revision.
   e. Development of control strategies or measures that will achieve the objectives of both air quality and WQM programs.
   f. Development of statutes, regulations, or administrative procedures relating air, water, and land use.
   g. Development of common impact assessment methods, procedures, and criteria.
   h. Development of air quality assessments of existing or projected development to be served by wastewater treatment facilities.
   i. Development of strategies for mitigating any adverse air quality effects from WQM plans.

The costs of any activities not listed above, but necessary to comply with the legal requirements of section 208, are eligible for funding when explicitly justified.

2. The following activities are not eligible for section 208 funding:

    a. Development or improvement of air quality monitoring instruments or procedures.

    b. Collection of ambient and source emissions air quality data, except as needed to calibrate models used in analyzing WQM plans.

    c. Compilation of base year emission inventories; except as necessary to assist in determining the air quality effects of WQM plans (e.g., determining emissions for areas where data adequate for the WQM plan assessment was not developed as part of the air quality planning process).

    d. Creation of air quality simulation models.

    e. Refinement of air quality simulation models; except as may be necessary to adapt or calibrate an existing model to better reflect the characteristics of the geographic area of application.

    f. Identification of major contingencies which may alter the assumptions used in air quality analyses (e.g., energy crises, fuel switching due to natural gas shortages, amendments to the Clean Air Act, etc.)

Because of the variability in air and water quality problems, availability of air quality data, and availability of funds, it is not possible to develop a national formula for apportioning costs between air quality funds and section 208 funds. Where eligible tasks, such as those listed on the preceding page, are being undertaken, it is left to the discretion of the Regional Administrator to determine the share of the funding which is to be provided through the available sources of funding.

PROCEDURES FOR COORDINATION BETWEEN AIR QUALITY MAINTENANCE PLANNING AND THE STATE AND AREAWIDE WATER QUALITY MANAGEMENT PROGRAM

I. Background:

A. Description of the Programs

1. Air Quality Maintenance Planning

Under the Clean Air Act Amendments of 1970, the states were required to develop state implementation plans (SIPs) for the attainment and maintenance of national ambient air quality standards (NAAQS) for six pollutants: suspended particulate matter, sulfur oxides, carbons monoxide, hydrocarbons, nitrogen dioxide, and photochemical oxidants. The SIPs were submitted to EPA for approval in 1972. Most SIPs emphasized the attainment of standards through emission control regulations and did not fully address the problem of maintaining the standards once attained. As a result of a 1973 court case brought by the Natural Resources Defense Council, the Environmental Protection Agency (EPA) disapproved all SIPs because they lacked effective mechanisms for maintaining standards. EPA then required that the states identify areas that have a potential for exceeding any NAAQS within a 10-year period. Based upon information submitted by the states, EPA published a list of these potential problem areas which are termed air quality maintenance areas (AQMAs).

The 1970 amendments also required that the NAAQS be attained by 1975, or by no later than 1977 if extensions are granted to states by the Administrator of EPA. However, a number of areas did not attain the NAAQS by 1975 and will not be able to meet them by 1977. Because of this attainment problem and the need to provide for NAAQS maintenance, EPA is reviewing all SIPs to determine where revisions may be necessary to provide for attainment and maintenance of standards.

By July 1, 1976, EPA determined which areas needed SIP revisions for either attainment or maintenance. This determination was based on analyses performed by either state or local agencies or by EPA. In some instances, it was not possible to complete the analysis by July 1, 1976. The areas for which analyses have not been completed will be listed in the Federal Register as potentially requiring a plan revision. A final determination will be made as quickly as possible. The dates by which attainment or maintenance revisions to the SIP are to be submitted are no later than July 1, 1977 for achievable emissions limitations and July 1, 1978 for all other measures.

The EPA has not limited air quality maintenance planning requirements only to those areas designated as AQMAs. Maintenance planning has been more explicitly incorporated into the SIP process through the addition of new regulations to Part 51 of Title 40, C.F.R. (These are labeled Subpart D - Maintenance of National Standards). The Administrator of EPA may now require SIP revisions for maintenance of NAAQS in any area regardless of whether the area has previously been designated an AQMA. The AQM planning regulations may be applied not only to designated AQMAs but to any area where SIP revisions for attainment and maintenance are necessary.

To ensure the continued maintenance of the NAAQS, once attained, states must provide a procedure for the continual acquisition of information used in projecting emissions, and assess all areas of the state at least every five years to determine which areas are in need of plan revisions.

The air quality analysis required under Subpart D, must include determinations of the air quality effects of emissions both from existing sources and from projected growth and development. The time period analyzed must cover at least 20 years, or if modified by the Administrator, not less than 10 years. There are three main elements of AQM analysis:
1) projection of emissions for each area and pollutant identified;
2) allocation of emissions according to estimated projections; and
3) calculation of air quality concentrations resulting from the future emissions pattern.

When the analysis indicates a need for a SIP revision in order to maintain the NAAQS, the revision takes the form of an AQM plan. The AQM plan must include control strategies which will ensure that projected emissions will be compatible with the maintenance of national standards, for a time period determined by the Administrator, but not less than three years and in many cases for 10 to 20 years. The plan must include: 1) data which demonstrates that the control strategies are adequate to attain and maintain national standards; 2) a description of the control strategy measures themselves; 3) enforceable rules and regulations to implement the control strategy; and 4) a discussion of possible future control strategies and regulations for enforcement.

2. State and Areawide Water Quality Management Program

Under Sections 208 and 303 of the Water Pollution Control Act Amendments of 1972, the states are directed to establish a continuing planning process (CPP) through which water quality standards and management plans to implement such standards are developed. The CPP is intended to serve as a guide for water quality decision-making over a 20 year span, at five year intervals. Its specific outputs are the five year strategy, the annual state program plan, a state/EPA agreement on timing and level of detail, and the individual state water quality management (WQM) plans.

Water quality management plans consist of two phases. EPA has directed the states to focus the first phase* of water quality management plans on analyses to determine the effluent limitation necessary for point sources to meet standards. Implementation of effluent limitations is through the Section 402 Federal/State discharge permit. Another means of implementing point source effluent limitation for municipalities is through the construction of publicly owned sewage treatment works authorized under Title II of the Act.

In the second phase of water quality management development, the planning objective is to meet the longer term 1983 goals of Section 101(a)(2): "It is the national goal that wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water be achieved by July 1, 1983." Water quality management plans form a basis for implementing applicable point and nonpoint source controls needed to achieve the requirements of the Act. These plans consist of the following elements:

(1) Planning boundaries
(2) Water quality assessment and segment classification
(3) Inventories and projections
(4) Nonpoint source assessment
(5) Water quality standards
(6) Total maximum daily loads
(7) Point source load allocations
(8) Municipal facilities needs
(9) Industrial facilities needs
(10) Nonpoint source control needs
(11) Residual waste control needs; land disposal needs
(12) Urban and industrisl stormwater needs
(13) Target abatement dates
(14) Regulatory programs
(15) Implementing and operating agencies
(16) Environmental, social, economic impact

*Phase I water quality management plans, which are based primarily on Section 303 of the Act, were to be submitted to EPA by July 1, 1975, unless an extension (of up to one year) was granted by the EPA Regional Administrator.

Phase II plans must be certified by the governor and submitted to EPA no later than November 1, 1978. EPA then has 120 days to review the plans and either approve them or return them to the state for modification. After EPA approval, the state should review, and if necessary, revise the plans at least annually.

For those areas with complex water pollution problems, the state can designate an areawide planning agency for each area to develop the plan. These areas are referred to as "designated areas" and they are eligible to receive Federal funding under Section 208 of the Act. There are presently 176 such designated areas, and most are urban, industrial areas, though some are rural or energy development areas. The plans developed must fulfill the requirements of Section 208 and must be approved by the state and EPA. The state is responsible for ensuring that the water quality management requirements of Section 208 are met in all areas of the state that are not designated.

Planning agencies for designated areas have up to one year to initiate their planning process and then two years to develop a plan. For existing grants, the Regional Adminstrator determines when the process is operational based on when the agency has sufficient staff to begin plan development and has initiated major work elements. The agency has two years to develop the initial plan. Most plans for designated areas now underway will be due between December 1977 and June, 1978. New grantees will have two years to develop the plan from the date the detailed work plan is approved by EPA. The agencies can receive up to 5 percent of their grant award to prepare the work plan.

There are other EPA programs which are closely related to the state and areawide water quality management program. Two of these are particularly important. The first of these two programs is the construction grant program. Municipalities and public agencies responsible for sewage treatment can apply for Federal funding to cover 75 percent of the cost of construction for waste treatment facilities. Facilities, or 201 plans, which are the first step in the construction grant process, consist of those necessary plans and studies required to evaluate and ultimately select the best alternative prior to detailed design and construction of publicly owned waste treatment works. The overall objective is to ensure that treatment works are cost-effective and environmentally sound.

The second program is the National Pollution Discharge Elimination System which issues discharge permits. These permits, which describe the limits of the discharge allowed, are required for all point source discharges. EPA is responsible for issuing the permits, but it can delegate this responsibility to the state if the state can demonstrate it has the necessary authority to implement the program and will comply with the requirements of the Act. By August 1976, twenty eight states are expected to have approved NPDES programs. In addition, EPA develops the effluent guidelines, and new source and toxic pollutant discharge standards which provide the base level of abatement control on which the permits are issued. Whenever these controls are inadequate to meet water quality standards, waste allocations (provided by the state) are applied.

B. Designation and Timing

1. Designation of Planning Agencies

Under the regulations for WQM planning, when an area is designated as one with complex pollution problems, an agency must also be designated as the planning body responsible for that area. Often this designated agency is a regional planning council or a council of governments (COG). For other areas of the state, i.e. non-designated areas, a state agency must be designated, with primary responsibility for the conduct and coordination of WQM planning. However, this state agency may and is encouraged to delegate portions of its planning responsibility to other state, federal, local, or interstate agencies provided that the delegated agencies remain under the supervision of the state agency. In the case of either designated or nondesignated areas, an implementation program must be developed, and the implementing agency or agencies must be identified.

The situation in AQM planning is somewhat different, since there is no provision requiring the designation of one responsible agency in designated AQMAs. The state has the initial responsibility for developing AQM analyses and plans throughout the state although this responsibility may be assumed by the EPA regional office or delegated to a lower level of government. For example, the state might decide to do the planning itself, or it might decide to do it in conjunction with local or regional agencies. If this is the case, more than one local or regional agency might be involved for each AQMA. It is recommended that one agency have lead responsibility, but this is not a requirement. Implementation can be the responsibility of one or more agencies as in WQM.

Because many air pollution control agencies may not have adequate expertise in developing and implementing the kinds of measures that may be needed for air quality maintenance such as land use and transportation measures, they are required by the regulations to coordinate with other agencies, such as the WQM agencies and their policy advisory committees, HUD 701 agencies, DOT 3-C agencies, Coastal Zone Management agencies and A-95 clearinghouses. Finally, the state would have to forward the AQM plan to the appropriate A-95 clearinghouse for comment prior to submission.

2. Geographic Boundaries

Most designated AQMAs consist of urban and urbanizing areas, and many overlay Standard Metropolitan Statistical Areas. Because of this, the initial boundaries are often defined as coincident with county boundaries, though in some cases boundaries divide counties. Other AQMAs cover areas where resource exploitation or industrial development create, or may potentially create, an air quality problem. If there is an identified need, maintenance planning will be done for other areas, although they will not be designated AQMAs. AQM plan revisions are pollutant specific; that is, an AQMA may be identified based upon potential violation of any one or several of the pollutants for which standards exist.

Following the initial determination of the need for SIP revision, states or EPA must do an in-depth, analysis of the problems posed by each pollutant in the identified area. This would include an assessment of growth factors and development patterns and a projection of future air quality for at least 10 years. It is possible that based on this analysis, the boundaries would be revised to correspond more closely to the air shed within which the objectionable pollutants are a problem.

State and areawide WQM planning is not pollutant specific. Areawide planning is performed whenever the governor of the state (or in some cases, local officals) determines that an area has or will have substantial problems in controlling water quality due to high concentrations of population and industry or other conditions. Boundaries for designated areas are coincident with governmental boundaries in most cases, though hydrological boundaries also may influence boundary determination. The designations are proposed either by the state (or states if it is an interstate area), or by the local jurisdiction themselves. The larger state planning area may be subdivided into "approved planning areas," which may include the entire state or portions of the state as defined by hydrologic, governmental, or other boundaries.

Thus, in both programs, the state has overall planning responsibility, although local and regional governments play an important role in the planning and implementation process.

3. Timing of Designation and Plan Preparation

Under the air quality maintenance program, the state or EPA must first analyze each AQMA to determine the extent of existing and potential air pollution problems and to evaluate whether an AQM plan is actually needed as a revision to the SIP. In some areas, a plan may not be required in the near future. In any case, by July 1, 1976 or shortly thereafter the Regional Administrators must identify all attainment and maintenance SIP revisions that will be necessary as well as just maintenance revisions. It is the RA's responsibility to set a submittal date for the AQM plan which will be contingent upon the lead time needed for effective maintenance. For example, if the air quality analysis reveals maintenance problems within 10 years and to solve the problem requires an action 7 years in advance, then the necessary action must be in the first maintenance revision. It does not matter how many years the revision covers, the necessary lead time from action to prevention of air quality standards violation must be considered. The shortest time period a revision could cover, however, would probably be three years since less would be impractical. However for those revisions necessary for attainment, the Administrator is requiring that all achievable emissions limitations be submitted by July 1, 1977, and all other measures needed must be submitted not later than July 1, 1978.

The AQM analysis must cover a 20 year period, or at least 10 years if modified by EPA. The time period covered by the AQM plan is determined by EPA, and may be less than the 20 year analysis period. In such a case, however, possible future strategies for maintaining air quality for the longer period must be discussed in the plan.

By May 1977 all SIPs must provide for a procedure for the continual acquisition of information used in projecting emissions. Using this data, all areas of the state shall be assessed at least every five years to determine if any areas are in need of plan revision. Of course, if the original plan insures maintenance for a period of less than five years for some AQMAs, these must be reassessed more frequently.

Planning agencies for designated WQM areas have up to one year to initiate their planning process and then two years to develop a plan. For existing grants, the Regional Administrator determines when the process is operational based on when the agency has sufficient staff to begin plan development and has initiated major work elements. The agency then has two years to develop the initial plan. Most plans for designated areas now underway will be due between December, 1977 and June, 1978. New grantees will have two years to develop the plan from the date the detailed work plan is approved by EPA. The agencies can receive up to 5 percent of their grant award to prepare the work plan. In any event, all initial WQM plans must be submitted to EPA by November 1, 1978. EPA may either approve, or disapprove a plan. Once approved, the state WQM plan (including the areawide plan(s)) must be reviewed and if necessary revised at least annually.

C. Interrelationships

One difference between the AQM and WQM planning programs is that monies have been appropriated specifically for the state and areawide WQM program, while AQM planning is part of the SIP and is funded out of existing state grants. The money allocated to the state through Program Support Grants (Section 105 of the Clean Air Act), together with the matched state or local funds, must be apportioned among a number of other air quality programs which are part of the SIP (e.g. Stationary Source Review, New Source Performance Standards, Transportation Control Measures), along with other general functions (enforcement, engineering, technical services, and management).

Nevertheless, WQM planning and air quality planning are interrelated, both in terms of their impact and in terms of their similarities of approach. Both are concerned with maintaining environmental quality; both utilize a state and areawide approach in which areas of potential or existing problems are identified and a unified plan is developed. However, when a program is designed to control pollution in just one medium, it can result in environmental deterioration in another. While the goal of both air quality planning and WQM is to improve the quality of the environment, the single medium focus of separate programs may result in conflict with the attainment and maintenance of standards in the other medium. At the same time, if care is taken to coordinate their development, the plans produced through these two programs can be mutually supportive.

1. Intermedia Tradeoffs

An obvious example of the intermedia conflict is the use of control technologies and equipment which are employed to reduce emissions to one medium while transferring the pollution problem to another medium. Lime/limestone scrubbers, one means for reducing SO_2 emissions, produce a liquid sludge which must be disposed of. Conversely, sewage treatment plants may try to dispose of sludge through incineration, thus increasing air quality problems. Such problems can also affect energy production considerations. A fossil-fueled electric generator may be undesirable because of air quality limitations, but an alternative nuclear generating plant may be unable to meet thermal pollution standards.

2. Community Growth

Potential conflicts are also apparent when examing the issue of community growth -- where it should occur, how it should be distributed and how much should be allowed. The two programs will view these questions from different perspectives, which in some areas may result in different answers. For example, the location of waste treatment plants and sewer interceptors can act as an inducement to growth and guide growth toward the serviced areas. These areas planned for expanded sewerage service may have existing air quality problems which increased growth would simply exacerbate. In Ocean County, New Jersey, for instance, the combination of the expansion of the Garden State Parkway and a proposed new large treatment plant would have permitted a rapidly accelerating growth rate and resulting air pollution problems from increased commuting. Citizen objections finally resulted in a reduction in the scale of the plant. In the Washington, D.C. metropolitan area, a large interceptor was run out to serve the Dulles International Airport through land which was largely undeveloped. The combined attraction of both the airport and the available sewer service has put severe pressure on the local communities to accommodate greater development and thus more pollution.

In addition to conflicts over the amount of growth, the two programs may consciously attempt to guide growth toward different distributions. In designing an AQM plan, for example, the planning agency may want to utilize measures to change emission densities. However, wasteload allocations consistent with maintaining water quality may necessitate a different land use configuration which would not correspond to the air quality zones. For example, the location of additional heavy industry within a particular area may lower the quality of the receiving water below standards, though due to favorable meteorological conditions, it is a desirable location in terms of air quality maintenance.

On a large scale, the two programs may favor different general growth patterns. In one area, for example, substantial in-migration and a concommitant demand for housing may result from increasing job opportunities. New housing construction to meet the increased demand might occur primarily in the urban fringe where excess treatment capacity exists. Indirect sources, such as shopping centers, would accompany the residential construction, and as a result, air quality standards might not be attained or maintained. In addition, adequate mass transit may not be available, and the inevitable increase of motor vehicle use could cause substantial air quality problems. Thus, the development pattern best suited to meet the requirements of a water quality plan may conflict with the needs for air quality maintenance planning.

3. Reinforcement

Thus far, only possible conflicts between the two programs have been mentioned. However, they should be designed to be consistent with one another so that their policies can be reinforcing, thus providing further inducement for communities to take regulatory action. Wastewater treatment and collection facilities, for example, can be designed to serve those areas lacking significant air quality attainment and maintenance problems, thus directing growth away from problem areas. In doing so, however, consideration must be given to preventing deterioration of air and water quality. If land use policies and controls are consistent, growth can be regulated so that it does not result in violations of either water or air quality standards. Therefore, it is important that agencies developing plans under the two programs coordinate closely with each other to assure that their plans will achieve national objectives for both media and that they are compatible and complementary. The plans will thus more likely reinforce each other as they are implemented.

II. Procedures for Coordination

A. Introduction

Various state, regional and local agencies may be involved in either AQM or WQM planning; some agencies may be involved in both. State and regional agencies are responsible for the WQM program; state designated, and delegated agencies are responsible for the AQM program. The general parameters for coordination of these two "sets" of agencies are detailed in the respective program regulations. In keeping with these regulations, this section will outline a number of procedures which could facilitate AQM-WQM coordination and describe their integration into the planning process.

Both the WQM and AQM planning processes have certain requirements for intergovernmental cooperation and coordination. In the WQM area, one mechanism for coordination between local, state, interstate, and federal units of government is the policy advisory committee. This committee is

made up of representatives from interested agencies and chief elected officials of local governments, and advises the responsible planning and implementing agencies on broad policy matters relating to the WQM plan, includng fiscal, economic, and social impacts. Furthermore, the state planning process must assure the coordination of water quality management plans with other resource and developmental planning, including state and local land use and development programs and federally-assisted planning and management programs (specifically including the SIP).

The regulations for AQM planning do not require the formation or utlization of a policy advisory committee, but they do include a more detailed description of the areas and purposes of coordination. Organizations or agencies with the responsibility for the development of AQM plans must ensure the continuous involvement of locally elected officials, state and local air pollution control agencies, and agencies within the AQMA responsible for local planning including the agencies and policy advisory committees responsible for WQM planning. Coordination with other planning programs substantially affecting or affected by air quality management is to be facilitated by the use of common data bases; coordination of work programs; use of similar policy advisory bodies; use of compatible public participation and information programs; incorporation of air quality as a factor in other planning programs; and determinations of consistency between programs.

In addition, the AQM plan must describe the program relationships between air quality management and state, regional, and local programs for land use management; transportation and parking management; water quality management; solid waste management; and other forms of environmental management affecting or affected by air quality management (40 CFR 51.58).

B. Planning Agency Designation/Delegation

Because the state is ultimately responsible for both AQM and WQM planning, the need for program coordination at the state level is imperative. In many cases, however, the state will delegate or share planning responsibility with local or regional agencies, such as regional planning commissions or counsels of governments (COGs). For the most part, the state designation or delegation process for WQM planning agencies will be completed prior to the AQM delegations.

Given this situation, coordination would be facilitated if the state delegated or shared responsibility for AQM planning with the same agency involved with WQM planning, provided that agency has responsibility for comprehensive planning and is capable of preparing such a plan. The development of AQM plans in many areas involves measures, such as land use controls, which many air pollution control agencies have neither the expertise to develop nor the authority to implement. Thus, in addition to facilitating coordination, it may be more politically acceptable to have an agency responsible for general comprehensive planning closely involved in the development of the AQM plan. Of course, the feasibility of having the same agency develop both plans would depend on the boundaries of the two areas. If there is little overlap, or if the state chooses not to

delegate its planning responsibility, there may be no local or regional planning agency with the authority to conduct both WQM and AQM planning in a given geographic area.

If the same agency does not have responsibility for both WQM and AQM planning, coordination would still have to occur, and to assure that it does, the responsible planning agencies should draw up letters of agreement between them to cover such items as integration of work plans, and consistency of data and control strategies.

C. Geographic Boundaries

From the earlier discussion, it should be apparent that in many cases AQM and WQM planning areas will not coincide, despite the general state oversight of both programs. For example, part of a metropolitan area may fall within a WQM planning area, while another part may be included in an AQMA. However, if there is a considerable overlap between the two planning areas, it would be preferable if they could be the same. During the AQM analysis, the states or those delegated by them should consider incorporating existing WQM planning areas into the AQMA when this appears to be a practical alternative. Conversely, future designations and boundary determinations for approved WQM planning areas should give consideration to refining geographic boundary lines so as to increase consistency with an existing AQMA.

D. Work Programs

The WQM and AQM plans have a slightly different planning sequence, but essentially follow a similar process. The following generalized planning tasks apply to either AQM or WQM planning:

1. Inventory of existing and potential emissions or discharges and characterization of possible problems.

2. Data collection and projection of population, employment, and land use over the planning period.

3. Projection of waste loads or emissions over the planning period.

4. Determination of effects on air or water quality.

5. Determination of necessary emission or waste load reductions.

6. Development of alternative strategies of waste load or emission reduction to achieve and maintain standards.

7. Evaluation of strategies and selection of preferred alternative.

Although they may be on somewhat different time schedules, it is important that whenever possible, WQM and AQM agencies coordinate on the development of their work programs to better integrate the tasks to be accomplished. In fact, it should be possible where there is no great discrepancy in timing, to use a common format for the two work programs. Since the AQM planning effort will have limited funding, the WQM agency could gather the data and develop projections of population, employment and land use which could then be utilized by the AQM agency. Some tasks, such as the citizen participation effort, could be done jointly, perhaps reducing the staff requirements and the time-consuming nature of such programs. In any case, the work program must specify how coordination will occur throughout the planning process.

The following sections deal with procedures for coordination in the development of projections, evaluation of alternative strategies, environmental analysis, reporting, and representation. The exact means of implementing these procedures should be developed in the work plan.

E. Grant Conditioning

Grant conditions can be used to specify and give assurance that sufficient attention will be given to coordination needs. Those responsible for administering the AQM program within the regional offices can make use of conditions on Section 105 program grants. If grants have already been given out, the refinement of work programs may provide an additional means of ensuring coordination. Similarly, conditions can be included in the WQM grant. An example, of WQM grant conditions is included on the following page. In addition, contracts or agreements between the WQM and AQM planning agencies can be used to clarify responsibilities for coordination.

F. Data

Both programs require the projection of future pollution levels. To do this, they must correlate predictions of the concentrations and components of growth to the resulting emissions. WQM covers a twenty year span at five year intervals; an AQM analysis must cover a 10-20 year period while the AQM plan must address a 20 year period. If the two plans are to be consistent, they must develop consistent projections for demographic factors such as population and household type, and for economic growth and land use. To ensure such consistency, a common classification system is needed for land use and economic factors so that data will be compiled using a similar format. The planning agencies should integrate their data requirements before gathering data, so that the information obtained for the one plan is transferable to the other. AQM plans can use the data already collected in areas where WQM planning is already underway. In other areas, the two programs should divide the effort of obtaining data, which, when collected, can be integrated into a common data base.

Air and Water Quality Planning Coordination

The Project Control Program shall, at a minimum, establish procedures to integrate the air quality maintenance planning (AQMP) and water quality management planning (WQMP) activities for the area by written agreement(s). These agreements shall insure that:

A. The identified air quality maintenance planning agency(s) has reviewed and commented on the project control program prior to its submittal to EPA.

B. Periodic reporting and output review procedures for both the AQMP and WQMP programs are established between the identified air quality maintenance planning agency(s) and the identified water quality management planning agency.

C. The designated air quality maintenance planning agency(s) participate as member(s) of the Planning Advisory Committee, established pursuant to 40 CFR 130.16.

D. There is an equivalent degree of participation (as B. above) by the water quality management planning agency (grantee) in the air quality maintenance planning activities for the area.

E. A coordinated search (involving the responsible air quality planning agencies) of the existing economic, demographic, land use, and other baseline data and data formats is accomplished prior to the development of the data base for the WQMP and AQMP programs.

F. Development of new economic, demographic, land use and other baseline data is applicable with respect to content, format, and timing of both the WQMP and AQMP programs.

G. Consistent economic, demographic, and land use projections are utilized in both the WQMP and AQMP programs.

H. Development of the air quality portions of the environmental assessment required by 40 CFR 6.512(a) and the air quality analyses in response to 40 CFR 131.11(p) is in a format appropriate for direct input into the air quality maintenance planning process.

I. Where possible, the coordinated scheduling of intermediate WQMP program outputs and information requirements with the outputs and information requirements of the AQMP program.

Since most AQM planning agencies have limited resources, primary reliance should be placed on WQM agencies for population, land use, economic and water quality data when this is compatible with the time schedule for AQM planning. The inventory and projection of air quality emissions remain the responsibility of the AQM agency.

The viability of coordinating data collection and projection depends of course on the timing of the two planning efforts. If one is done much earlier than the other, more recent or comprehensive data may become available by the time the second planning effort is underway. If this is the case, there may be adequate reason for modifying projections. However, if it cannot be demonstrated that the difference in projections is due to the availability of more complete data, projections for the two plans should be the same. This approach should also be taken when AQM or WQM plans are revised so that consistency is maintained.

Another problem develops when the two planning areas overlap but are not identical. In this case the projections in the overlapping area should be the same and those for the adjacent areas should not conflict. That is, the growth rates for the entire area should be consistent.

Prediction of pollution levels will be based in part on population projections. These predictions will affect the selection of alternative implementation strategies, which could in turn, necessitate modification of the projections. This iterative process of revising projections must also be coordinated so that potential growth areas are not conflicting.

G. Representation

Periodic consultation between AQM and WQM planning agencies will help ensure that both plans are consistent. It is important therefore, that representatives of the planning agencies responsible for each program should be included in any advisory group which might be created, to ensure periodic consultation between the two agencies. AQM planning guidelines discuss the necessary involvement and interrelationship of various governmental organizations in the development of an AQM plan. They assume that, in most cases, a number of agencies will be intimately involved in the plan's development. Whatever method is chosen to ensure coordination, a representative of the WQM planning agency should be included in such efforts. WQM guidelines similarily provide coordination by means of policy advisory committees, and representatives of an AQM agency should be included in its membership. In addition, the staffs of the two planning agencies should develop a close working relationship. For example, each planning agency could designate one

person to serve as liaison between them, to help ensure that necessary coordination is carried out in a timely fashion. This would help in identifying possible conflicts and resolving them informally as they arise.

H. Evaluation of Alternative Strategies

Many of the control strategies available for use in either an AQM or a WQM plan have a potential impact on the other medium. This is especially true for control strategies relating to land use. In the case of air quality maintenance, nine of the 18 measures discussed in Control Strategies (Volume III of the AQM guideline series), are categorized as land use measures. Emission allocation procedures, for instance, would limit the emission of pollutants based on the regional land use/transportation plan. The maximum emissions allowable, consistent with standards, would be allocated to planning subareas, and land use and transportation plans would be revised so that these prescribed emissions limits would not be exceeded. Transportation controls help reduce emissions from motor vehicles by either reducing the pollutant emission rate per vehicle mile of travel (VMT) or by reducing the total number of VMT. Measures to reduce VMT have the greatest impact on land use, and can include such things as street closings or traffic free zones, parking supply management, restricted road building, improved mass transit, and control of urban development. Other control strategies which affect land use include transfer of emission source location, indirect source review, emission charges, and regional development planning.

All of these control strategies can indirectly affect water quality. Emission limits set for various subareas would effectively control certain types of development producing those emissions, while possibly encouraging them to locate elsewhere. An optimum location decision in terms of maintaining air quality may not be desirable in terms of handling water pollution discharges. Restricting the development of road networks in one area may lead to development where the transportation infrastructure was already in existence - thus causing higher pollution loads in already developed areas.

As pointed out earlier, it is not only the control strategies which directly affect land use and thus water quality, but also the technologically and operationally oriented strategies, that is, emission control measures. These include such things as new source performance standards, fuel conversion, combination of emission sources, stack height regulations and control of fugitive dust sources. Combination of emission sources may cause a concentration of water pollution discharges. The use of tall stacks may reduce ground level concentrations but could result in contaminated precipitation such as the "acid rains" observed in Sweden. One control strategy for fugutive dust consists of watering which could cause runoff problems.

However, not all interaction between WQM and AQM need result in conflict. For example both plans should favor better management of construction activities. Measures such as minimal exposure periods for active construction areas, or ultilization of staged grading, seeding and sodding procedures would reduce both runoff and fugitive dust problems. Street cleaning techniques can be useful as a means of reducing resuspension of particulate matter and also as a means of reducing peak pollutant loads from stormwater runoff. More generally, the objectives of both programs would be served by limited urban development in certain areas or controlled density. Transportation control plans which restrict road construction to such areas, and facility planning which avoids routing and an interceptor to undeveloped areas could both be used as reinforcing strategies.

It is thus critical for the successful implementation of the WQM and AQM plans to take advantage of complementary strategies by evaluating the effectiveness of various alternatives to determine their impact on each medium.

The planning agencies responsible for the two programs must make sure that they inform one another about alternatives being considered and offer one another an opportunity to review and comment on alternatives. Such comments should be considered during the evaluation process so that alternatives for one medium could not be selected that would conflict with implementation of the plans for the other medium. This review and comment should be undertaken by the planning staffs and the advisory groups to the planning agencies.

WQM agencies will have an additional opportunity in preparing the environmental assessment to assure that no conflict exists with AQM strategies. Each alternative WQM plan will be evaluated to assess its impact on air quality. Not only the direct impact on air quality should be assessed but also the indirect effects on growth inducement or distribution. Information developed for the environmental assessment can be utilized in the AQM plan. The WQM agency should discuss with the AQM planning agency the potential of transferability when designing the environmental assessment.

I. Reporting

In order to keep the planning agencies posted on the current development of both plans, there should be some type of periodic or milepost reporting between them. The state should be responsible for ensuring that the reporting is carried out. This could take place quarterly or at the beginning and completion of some subtask (e.g., data collection, projections, analysis of water and air quality, etc.). Informal contacts

would, of course, be more frequent. Periodic or milepost reporting, however, would provide formal documentation of the communication which had taken place.

In addition, a report should be periodically sent to the EPA regional office. The report should describe how representatives of each program are involved in an advisory capacity, any meetings which have been held between the two programs, what information has been provided to each program, how consistency in data and projections is being achieved, and any potential conflicts which may be developing. This should be done at a minimum of every 6 months in the format of the semi-annual reports required of both the AQM and WQM planning agencies.

J. Program Approval

Where their boundaries overlap, the identified planning agency for each program should review the other's completed plan to ensure that there are no conflicts. As a final check, and where the state itself is the agency responsible for planning, the plans should be reviewed at the state level by those reponsible for administering the two programs. Finally, all plans should be reviewed by the EPA regional office.

If potential conflicts develop during the planning process, it is expected that both the planning agencies and/or state (depending on the geographic area of interest) will attempt to resolve them informally. Where local or regional agencies are unable to resolve their conflicts, or where the state is itself involved in a plan conflict, the state agencies responsible for the adminstration of the two programs should attempt a resolution of the matter. As a final resort, conflicts could be referred to the Regional Administrator for mediation.

In the case where other federal agencies are involved in a dispute, then EPA should meet with representatives of the affected agency to review the situation and whenever possible formulate recommendations to resolve the dispute.

As a final "encouragement" to resolve conflicts, EPA will not approve WQM and AQM plans which are in conflict. Specifically, plans will not be approved which have conflicting projections, or conflicting control strategies, or allow for construction of infrastructure (roads, interceptors, treatment facilities) which would result in standards violations in either medium. Thus, WQM and AQM agencies are encouraged to resolve conflicts early and not wait until the plans are so far along that changes would be costly.